

Papuan *Chariochilus* (Coleoptera: Scarabaeidae: Melolonthinae), with description of *C. tamarau* sp. nov.

DMITRY TELNOV

Dārza iela 10, Stopiņu novads, LV-2130, Dzidriņas, Latvia; e-mail: anthicus@gmail.com

Abstract: Papuan melolonthine *Chariochilus tamarau* sp. nov. is described and additional description provided for *C. metallescens* Brenske, 1898. The checklist and key to *Chariochilus* species are presented for the first time.

Key words: Coleoptera, Scarabaeidae, Melolonthinae, *Chariochilus*, key to species, New Guinea, Australia.

Introduction

Chariochilus Brenske, 1898 is a small Melolonthinae genus that includes two Papuan (including a new species described herein) and one north Australian species. This genus was placed in the tribe Melolonthini by Dalla Torre (1912). Later, Britton (1979) established new synonymy: *Chariochilus* Brenske = *Lepidostethaspis* Arrow and *Chariochilus costipennis* Moser, 1908 = *Lepidostethaspis squamosus* (Lea, 1919), and moved this genus to the Xylonychini. Smith (2006) synonymised Xylonychini Britton, 1957 with Stethaspini Burmeister, 1855, where *Chariochilus* remained just for a few years until priority of Colymbomorphini over Xylonychini was claimed (e.g. Lawrence & Ślipiński 2013; Gunt-er et al. 2016).

Chariochilus metallescens has been originally described from a pair of specimens from Roon Island located offshore Wandammen Peninsula in western New Guinea. This species has not been reported since its original description and its distribution range and population trend remains unclear. Another Papuan species of *Chariochilus* discovered in Tamarau Mountains of Doberai Peninsula (western New Guinea) in 2012.

Chariochilus species inhabit rainforests. Recent New Guinea record is from lower montane rainforest at an altitude of about 1050 m.

The following combination of traits distinguishes *Chariochilus* from similar genera: mesosternal process elongate, rounded anteriorly, protruding forwards up to or over the anterior faces of the procoxae, antennal clubs 3- (in females) or 4- (in males) lamellate, terminal tarsomeres not spinose, labrum with distinct median excavation on anterior margin, protibiae bidentate on outer margin.

Taxonomic part

***Chariochilus metallescens* Brenske, 1898** (Fig. 1, plate 94 figs 1-4)

Syntypes 1♂ & 1♀ Naturkundemuseum Berlin: Roon [printed] / Coll. Brenske [printed] / *Chariochilus metallescens* type ... [handwritten, text partly unreadable].

Redescription: Generally agrees with the original description. Male aedeagus as in Fig. 1, parameres widened in lateral view. Photographs of this species presented here for the first time.

Sexual dimorphism: Female antennal club is 3-lamellate according the original description (Brenske 1898).

Distribution: Roon Island offshore Wandammen Peninsula, Bird's Neck Isthmus, western New Guinea.

***Chariochilus tamarau* sp. nov.** (Figs 2-6, plate 95 fig 1, plate 96 figs 1-2)

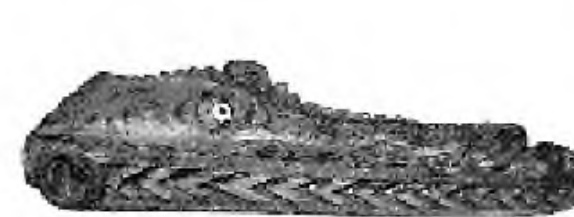
<http://zoobank.org/C69C17A7-B9FE-4401-8851-1D1B3C48997E>

Holotype ♂ Naturkundemuseum Erfurt: INDONESIA E, West Papua, Tamarau mts, ~12 km NW Fef vill. 00°46'05"S, 132°19'06"E, 1050 m, 12-13.II.2012, primary lower montane rainforest, MV light, leg. D. Telnov.

Paratype 1♂ collection Dmitry Telnov, Rīga: same label as in holotype.

Derivatio nominis: Toponymic. This species named after Tamarau Mountains, its area of occurrence.

Coloration: The forebody inclusive scutellum is pale coppery with metallic reflection, the elytra are reddish brown. Palps and antennomeres 1-4 (in females) or 5 (in males) are orange-brown, scape of



antennae brown. Legs are reddish-brown to brown, protibiae coppery with metallic reflection. The underside is reddish brown in the anterior half, the abdomen is brown.

Measurements, holotype: Total body length 19.8 mm. Head 3.5 mm long, maximum width across eyes 4.2 mm, pronotum at midline 3.8 mm long, maximum width postmedium 7.1 mm, elytra 12.5 mm long, maximum combined median width 0.93 mm.

Description: The head is smooth and glossy dorsally, slightly convex on clypeus. The labrum is 5 times wider than its length, with deep and broad median excavation on anterior margin, covered by coarse flat irregular punctures. The labrum is not pubescent. The anterior margin of the clypeus is truncate. The frontoclypeal suture is V-shaped. The intraocular distance is more than 2 times wider than eye length. The head dorsum is densely and large punctate, intervening spaces are mostly smaller than punctures, with very delicate microscopically striate. The anterior margin of the clypeus rugulose is punctate. A white to pale yellowish narrowly elongate suberect scale-like seta arises from each puncture. Very sparse longer erect yellow setae are scattered over surface of head. Club of male antenna is 4-segmented (Fig. 2). The scape is the longest among all antennomeres, widened distally. 5th antennomere provided with long denticle, about 3-4 times wider (inclusive denticle) than its length. The pronotum is hardly convex dorsally, smooth and glossy, almost twice wider than its length. Anterior angles are distinctly angulate. Basal angles are broadly rounded. Lateral margin is rounded, emarginate. Basal margin has broad obtuse median protruding against scutellum. Dorsum of the pronotum is densely and large punctate. Punctures are denser and coarser along the midline and become sparser laterally. Intervening spaces are very delicate microscopically striate, either equal to puncture diameters or several times larger than the punctures. A white narrowly elongate sub-erect scale-like seta arises from each puncture. Lateral margin presented with seven long erect yellow setae. Very sparse long erect yellow setae are scattered over surface of the pronotum. The scutellum is broadly triangular, smooth and glossy, with sparse punctures and scale-like setation similar to the pronotum. Dorsally, the elytra are moderately convex, smooth and glossy. Omoplates are moderately convex. Each elytron hardly impressed in apical fourth, the suture is slightly elevated over the elytral surface in this area. Each elytron has 14 very flat longitudinal striae exhibiting dense ir-

regular punctures; of them 10 striae between the suture and shoulder. Interstrial intervals are weakly convex, presented with sparse punctures. The elytra are covered with dense white narrowly elongate (pointed) suberect scale-like setae. Therefore, the elytral pattern is longitudinally striate because elytral disc scales are sparser at interstrial intervals. There are several very sparse and scattered large and flat punctures all over the elytral disc, each having long erect yellow seta (Fig. 3). There are 9 such punctures and setae in the 1st striae. Legs: Protibia are comparatively short, bidentate on the outer margin. Metatarsi are long. Basal metatarso-mere in males is 1.1-1.2 times longer than the longest spur of the metatibia. All femora and tibiae are covered with white scale-like setae of variable density, these setae are somewhat narrower and longer than those found on the dorsum. Meso- and metatarsi are also (although very sparsely) setose. The femora and tibiae are additionally presented with long yellow setae. The mesosternal process is elongate, rounded and somewhat widened anteriorly, protruding forwards up to or over the anterior faces of the procoxae, smooth and not pubescent (Fig. 6). Scale-like setation is especially dense on lateral parts of the sternites. The pygidium is rugulose punctured, broadly rounded on apical margin and exhibiting several extraordinary long yellow se-



Figure 1. *Chariochilus metallescens* Brenske, 1898 syn-type ♂, aedeagus, lateral view (photo: C.-L. Li, 2017).



tae, provided with obtuse median carina not reaching apical third. Male aedeagus as on figs 4-5. Sexual dimorphism: Female is unknown. Differential diagnosis: *Chariochilus metallescens* is very close morphologically to the new species but male aedeagus is different, parameres strongly widened distally (consider Fig. 1). Ecology: Specimens were attracted to mercury vapour light set at the edge of a primary lower montane rainforest (about 1050 m). The beetles flew to the light at midnight in drizzle conditions and at temperature about 15-18°C. Distribution: Tamarau (= Tamrau) Mountains of Doberai Peninsula, western New Guinea.

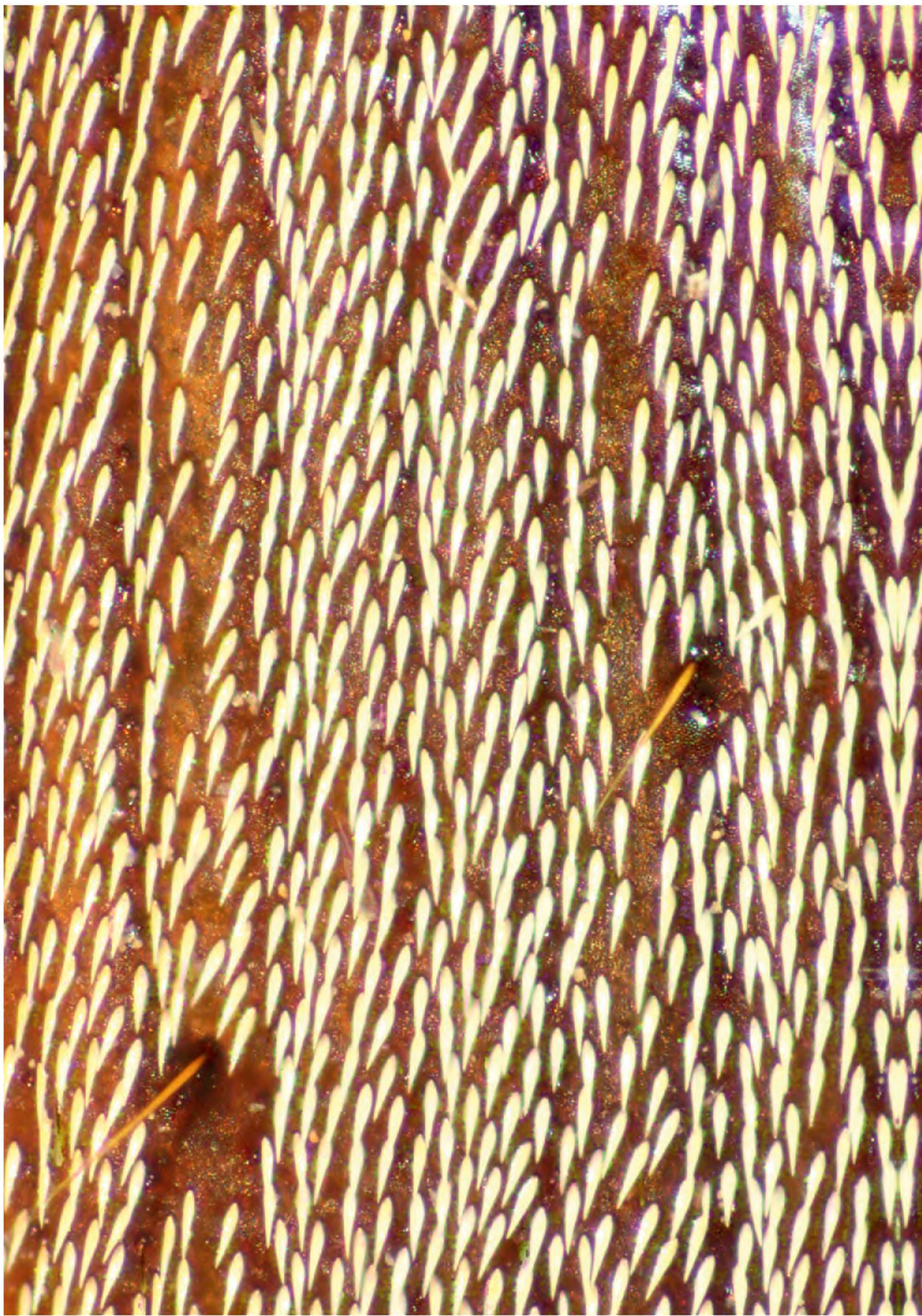
Annotated list of *Chariochilus* Brenske, 1898

Species are arranged alphabetically in the list, since phylogenetic relationships remain unknown. A page number with where original description indicated for each taxon after the year of description.

Scarabaeidae Latreille, 1802: 144
Melolonthinae Leach in Samouelle, 1819: 189
Colymbomorpha Blanchard, 1850: 97

Chariochilus Brenske, 1898: 237
Type species: *Chariochilus metallescens* Brenske, 1898, by monotypy.

= *Lepidostethaspis* Arrow, 1924: 547
Type species: *Stethaspis squamosus* Lea, 1919, by monotypy.



2



4



3

5

Figures 2-5. *Chariochilus tamarau* sp. nov., holotype ♂. 2 – Elytral setation; 3 – Right antenna, dorsal view; 4 – Aedeagus, lateral view; 5 – ditto, ventral view.



Cariochilus costipennis Moser, 1908: 358
= *Stethaspis squamosus* Lea, 1919: 192
Distribution: Australia (Queensland).

Chariochilus metallescens Brenske, 1898: 237
Distribution: Indonesian New Guinea (Roon Island at Wandammen Peninsula, Bird's Neck Isthmus).

Chariochilus tamarau sp. nov.
Distribution: Indonesian New Guinea (Doberai Peninsula).

Identification key to *Chariochilus* Brenske, 1898

1 The pronotum evenly covered with uniform white scales, without smooth median line, elytral striae flat (shallow), their punctures sparse, interstitial intervals of elytra weakly convex, the underside pale brown with inconspicuous metallic reflection 2
– Lateral margins of the pronotum are covered with yellowish scales, median longitudinal line is free of scales, smooth, elytral striae are rather deep, their punctures dense, interstitial intervals of the elytra are strongly convex, the underside with dark metallic reflection
..... *C. costipennis*



Figure 6. *Chariochilus tamarau* sp. nov., holotype ♂, head and thorax in ventral view.

2 Aedeagus as in Fig. 1, parameres widened in lateral view *C. metallescens*
– Aedeagus as in Fig. 4, parameres not widened in lateral view *C. tamarau* sp. nov.

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Plate 94

TELNOV, D.: Papuan *Chariochilus* (Coleoptera: Scarabaeidae: Melolonthinae), with description ...



Figures 1-5. *Chariochilus metallescens* Brenske, 1898, syntype ♂. 1 – Habitus, dorsal view; 2 – ditto, dorso-lateral view; 3 – ditto, front view; 4 – ditto, lateral view; 5 – Apex of elytra and pygidium, back view (photo: C.-L. Li, 2017).

Plate 95

TELNOV, D.: Papuan *Chariochilus* (Coleoptera: Scarabaeidae: Melolonthinae), with description ...



Figure 1. *Chariochilus tamarau* sp. nov. holotype ♂: habitus, dorsal view.

Plate 96

TELNOV, D.: Papuan *Chariochilus* (Coleoptera: Scarabaeidae: Melolonthinae), with description ...

1



2



Figures 1-2. *Chariochilus tamarau* sp. nov. holotype ♂. 1 – Head, dorsal view; 2 – Forebody, lateral view.